Available online at: http://proceeding.rsfpress.com/index.php/ictase/index
Proceeding on Teaching and Science Education (ICTASE)
Volume 1 Number 1 (2020): 43-51

Teachers' Performance and Students Learning Outcome in the Division of Cavite, Philippines

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Abstract

The study is to determine the correlation between the teachers' performance and learning outcomes assessment on grade 10 students' first periodic test for the school year 2019-2020 in the north cluster, division of Cavite. The teachers' performance was assessed by headteachers and students in terms of knowledge of the subject matter and teaching pedagogical approaches such as constructivism, collaborative, integrative, inquiry-based, and reflective approaches. As to the knowledge of the subject matter and teaching pedagogical approaches, the teachers' performance was outstanding as assessed by headteachers. Amongst the pedagogical approaches, the integrative approach obtained the highest meanwhile the reflective approach got the lowest mean. Nonetheless, the teachers' performance was highly satisfactory as assessed by students. Amongst the pedagogical approaches, the constructivist approach acquired the highest meanwhile the reflective approach got the lowest mean. There is a significant difference on teachers' performance as assessed by headteachers and by students and there are a significant relationship and weak positive correlation on teachers' performance on learning outcomes of students' first periodic test and on the assessments of students as to knowledge of the subject matter and pedagogical approaches except for reflective approach which has a very weak positive correlation.

Keywords: Teachers' Performance, Learning Outcomes Assessment, Pedagogical Approaches, Knowledge of the Subject Matter, Polytechnic University of the Philippines, Open University Systems, Master in Education Management

I. INTRODUCTION

Under Republic Act Number 10533 entitled, "An Act Enhancing the Philippine Basic Education System by Strengthening Its Curriculum and Increasing the Number of Years for Basic Education, Appropriating Funds Therefore and for Other Purposes," otherwise known as the Enhanced Basic Education Act of 2013, the State shall create, sustain and support a robust, effective and integrated education system. Section 7 of RA 10533 states that the Department of Education (DepEd) and the Higher Education Commission (CHED) shall conduct in-service content and pedagogy training programs to meet the content and performance standards of the new K to 12 curricula.

Director Diosdado M. San Antonio, Director IV-Region IVA-CALABARZON, published Regional Memorandum Number 11 series 2015 entitled The 2C-2I-lR Pedagogical Approaches: K to 12 Approaches Across Learning Areas Supporting Teacher Practice, for use by all curriculum implementers of the curriculum. The field is inspired to review the guide, which consists of several strategies on the five pedagogical approaches outlined in RA10533 (EBEC) to help all teachers in facilitating learner-centric instruction.

Regional Memorandum Number 233 series 2016 entitled 2C-2I-1R Pedagogical Approaches (Constructivist, Collaborative, inquiry-based, integrative, and Reflective) which restates the utilization of 2C-2I-1R pedagogical approaches was issued in support of Regional Memorandum Number 11 series 2015 and RA 10533.

The government is so determined to use the teachers' pedagogical methods 2C-2I-1R to implement their lessons to improve the academic performance of students. But there are only a few studies on these pedagogical approaches in the Philippines, and mostly based on integrative and collaborative approaches. However, a study in the Philippines and its effectiveness in the Philippine settings had not yet considered and proved other approaches.

With this, the researcher wanted to evaluate the correlation between the performance of the teachers as assessed by the headteachers and the students using the researcher's research tool anchored on the knowledge of the subject matter of the teachers and the five pedagogical approaches such as constructivism, collaborative, integrative, inquiry-based and reflective approaches and student outcome on first periodic test for the school year 2019-2020.

This study included Emiliano Tria Tirona Memorial National High School (ETTMNHS), Bagbag National High School (BNHS), and Rosario National High School (RNHS) teachers of ICT, cookery and wellness massage from the Division of Cavite-North Cluster. The research also included the grade 10 students of the same teachers under the aforementioned Technical Vocational Track (ICT, cookery, wellness massage) and the headteachers of the Technology and Livelihood Education Department of the same schools.

Among the other schools in the north cluster, these three schools, ETTMNHS, BNHS, and RNHS, were chosen because they are the schools offering the same strands of ICT, cookery, and wellness massage specializations. They're also classified as large schools having 81-120 teachers. ETTMNHS performed better for the fiscal year 2017 for the last three years, 2016-2018, but performed best for 2016 and 2018. In two consecutive years, BNHS has achieved better results and best performance in the fiscal year 2018. For three consecutive years, RNHS has performed best.

The data sources for this study were the performance of the teachers as assessed by the headteachers and the students using the research instrument of the researcher and the results of the evaluation of learning outcomes on the first periodic test of the students. The students assessed only their teachers in the strand they belong to. The performance of the students was measured based on the results of the student's first periodic test for the school year 2019-2020 assessment of learning outcomes. Furthermore, the study tested the significant difference between the assessment of headteachers and students in terms of knowledge of the subject matter and different pedagogical approaches. The significant relationship on teachers' performance as assessed by the headteachers and by the students using the researcher's research instrument and also the results of learning outcomes assessment on students' first periodic test for the S.Y. 2019-2020 in Information and Communications Technology (ICT), cookery and wellness massage has been tested as well.

II. LITERATURE REVIEW

This study was based on knowledge of the subject matter and various pedagogical approaches to teaching such as the constructivist approach, collaborative approach, integrative approach, inquiry-based approach, and reflective approach.

The researcher used a modified questionnaire adapted from Mrs. Priscila Pineda-Iliscupidez titled An Assessment of the Tertiary Level Faculty Evaluation Program in Region III: Basis of a Proposed College Teaching Evaluation Model (2001) and was validated by the three experts: one Public Schools District Supervisor and two Principal IV. The 33-item questionnaire, based on the result, had Cronbach's alpha value of 0.947 which indicates the questionnaire's excellent reliability.

Rahmatullah (2016) noted that teachers will not be able to improve their performance without competence. Basic teachers' competence must be processed to do the duties of a teacher and educator. Teachers with a high level of competence have a strong commitment to the quality of the outcomes of the achievement, producing high student achievement and the target to be accomplished. As a school educator, teachers are expected to improve the learning process more efficiently and effectively, have the innovation and creativity in the execution of the learning process, and have good skills. The teacher performance improvement standards in training, educational targets can be well achieved.

As to Student Evaluation of Teaching as an Inadequate Assessment Tool of Evaluating Faculty Performance (2017), factors like the instructor, instructor's competencies, communication skills, attitudes, likability, and effective use of humor are positively associated with student ratings.

According to Akiri (2013), the efficacy of classroom teachers has been found to have only minimal influence on the academic performance of students. This is because teachers' participation isn't the sole determinant of students' academic performance. Factors related to students such as intelligence, parental education, socioeconomic status, and personalities that differ across wide margins within the study area may have a significant impact on student tutorial performance in public secondary schools. It may also have a significant influence on the academic performance of students and may, therefore, be responsible for the low performance reported by students compared to the effectiveness of their teachers.

Similarly, Heggart (2016) cited in his study that knowledge of the subject matter was only a minor consideration in the achievement of students. According to Heggart (2016), knowledge of the subject matter of teachers was far less effective than other variables such as classroom management or positive input from students.

III. RESEARCH METHODOLOGY

The study used the descriptive method of research to evaluate the correlation between the teachers' performance and the result of the Learning Outcomes Assessment. Mean was used to measure the performance of the teachers as measured by the headteachers and by the students in terms of the knowledge of the subject matter and the various pedagogical approaches. Distribution was used to analyze students' performance. Mann-Whitney U-Test was used to compare the assessment of headteachers and students on teachers' performance. Spearman Rank was used to test the correlation between the performance of teachers as measured by the students using the testing instrument of the researcher and the results of the assessment of the learning outcomes based on the first periodic test of the students.

IV. FINDING AND DISCUSSION

The teachers' performance was assessed by the headteachers in terms of the knowledge of the subject matter and pedagogical approaches. The responses range from poor to outstanding.

Table 1 generally implies that teachers perform exceptionally well in teaching. They are sufficiently knowledgeable in their field of specialization which is evident in its 4.75 means interpreted as outstanding. They are also experts in applying the various pedagogical approaches.

Among the five pedagogical approaches in teaching, though still interpreted as outstanding, the reflective approach obtained the lowest grand mean of 4.22 while the integrative approach obtained the highest grand mean of 4.71 interpreted as outstanding.

Table 1. Summary of the Results of Knowledge of the Subject Matter and Pedagogical Approaches as Rated by the Head Teachers' Respondents

Indicator	Grand Mean	Verbal Interpretation
Knowledge of the Subject Matter	4.75	Outstanding
Pedagogical approaches	4.58	Outstanding
Constructivism Approach	4.65	Outstanding
Collaborative Approach	4.64	Outstanding
Integrative Approach	4.71	Outstanding
Inquiry-Based Approach	4.68	Outstanding
Reflective Approach	4.22	Outstanding
Average Grand Mean	**4.67**	**Outstanding**

Legend: *"Poor (1.00 – 1.50)", "Needs Improvement (1.51 – 2.50)", "Satisfactory (2.51 – 3.50)", "Highly Satisfactory (3.51 – 4.50)", "Outstanding (4.51 – 5.00)"*

In Khanam & Zahid's study (2019), classroom observations revealed that a trained group of reflective teachers could more confidently solve the classroom problems of their students. Practice in reflective teaching helps teachers develop their teaching and learning abilities. Reflective teaching practices should be an integral component of teacher career development. Reflective teacher training needs to focus on delivering reflective skills to the classroom that can be achieved through metacognitive microteaching sessions and the self-reflection practices of prospective teachers. The study suggests longer training sessions to generalize the benefits of reflective skills with a diverse group of prospective teachers.

As shown in Table 2, teachers generally have highly satisfactory teaching performance. They are adequately competent in their specialization area, which is interpreted as highly satisfactory in its mean of 4.21. They are also experts in using the various pedagogical approaches with a grand mean of 4.32 interpreted as highly satisfactory, especially on the constructivist approach, and is the highest obtained mean for pedagogical approaches. Nonetheless, the reflective approach received the lowest grand mean of 4.03 among the five pedagogical methods used in teaching. But the interpretation is still highly satisfactory.

Table 2. Summary of the Results of Knowledge of the Subject Matter and Pedagogical Approaches as Assessed by the Students' Respondents

Indicator	Grand Mean	Verbal Interpretation
Knowledge of the Subject Matter	4.21	Highly Satisfactory
Pedagogical approaches	4.16	Highly Satisfactory
Constructivism Approach	4.32	Highly Satisfactory
Collaborative Approach	4.07	Highly Satisfactory
Integrative Approach	4.17	Highly Satisfactory
Inquiry-Based Approach	4.22	Highly Satisfactory
Reflective Approach	4.03	Highly Satisfactory

Average Grand Mean	**4.19**	**Highly Satisfactory**

Legend: *"Poor (1.00 – 1.50)", "Needs Improvement (1.51 – 2.50)", "Satisfactory (2.51 – 3.50)", "Highly Satisfactory (3.51 – 4.50)", "Outstanding (4.51 – 5.00)"*

The positive effect of reflective practice on the professional development of teachers was noticed by Kramer (2018). To order to improve teaching strategies, new prospective teachers, therefore, need a routine method of preparing, acting, and reflecting. Collaborative reflection also helps students to analyze their practice in detail from multiple angles and to find collective solutions. It is a collective learning process with many corrective and improvement opportunities (Foong, 2018).

Table 3. Distribution on Students Performance Based on the Result of First Periodic Test

Scores	Frequency	Percentage (%)	Verbal Interpretation
35 and Below	124	40.4	Did Not Meet Expectations
36 to 40	48	15.6	Fairly Satisfactory
41 to 45	46	15.0	Satisfactory
46 to 50	43	14.0	Very Satisfactory
51 to 60	46	15.0	Outstanding
Total	**307**	**100.0**	

The data shows that most students received scores of 36 and above consisting of 183 students or 59.6 %, indicating that most students passed the 60% passing rate as prescribed by the Education Department in their transmutation table in their periodic test.

According to Akiri (2013), the effectiveness of teachers' classroom was found to have only a minimal impact on students' academic performance. This is because the effort of the teacher is not the sole determinant of the academic outcome of the students. Factors related to students such as intelligence, parental education, socioeconomic status, and personalities that differ across wide margins in the study area may have a significant impact on students' academic performance in public secondary schools. This may also have a significant influence on students' academic performance, and thus may be responsible for students' observed low performance compared to their teachers ' effectiveness.

Table 4 establishes the data for the comparison of teachers' performance as assessed by the headteachers and students using the same assessment form which is the researcher's research instrument. The data reveals that in terms of the "Knowledge of the subject matter", students have a mean of 156.69 while headteachers have a mean of 244.75 with 825.00 t-value, a p-value of 0.001. Since the p-value is lower than $\alpha \leq 0.05$, the hypothesis was rejected. In conclusion, there is a significant difference between the assessment of students and headteachers on teachers' performance with regards to knowledge of the subject matter.

Table 4. Mann-Whitney U-Test: Comparison between the Assessments of Head Teachers and Students' Respondents

Indicators	Type of Client	Mean	t-value	p-value	Decision	Remarks
Knowledge of the Subject Matter	Student	156.69	825.00	0.001	Reject Ho	Significant
	Department Head	244.75				
Pedagogical Approaches	Student	157.93	1208.00	0.041	Reject Ho	Significant
	Department Head	212.83				

Constructivism Approach	Student	156.84	873.00	0.002	Reject Ho	Significant
	Department Head	240.75				
Collaborative Approach	Student	156.68	821.50	0.001	Reject Ho	Significant
	Department Head	245.04				
Integrative Approach	Student	157.30	1012.50	0.008	Reject Ho	Significant
	Department Head	229.13				
Inquiry-Based Approach	Student	156.95	904.50	0.003	Reject Ho	Significant
	Department Head	238.13				
Reflective Approach	Student	156.90	891.50	0.002	Reject Ho	Significant
	Department Head	239.21				

Note: *If the p-value is less than or equal to the level of significance which is 0.05 reject the null hypothesis otherwise failed to reject Ho.*

In the area of pedagogical approaches specifically for the constructivist approach, there is a significant difference between the assessment of students and headteachers on teachers' performance. Students obtained a mean of 156.84 and 240.75 for the headteachers with a t-value of 873.00 and a p-value of 0.002. Therefore, the hypothesis was rejected.

The results generally imply that there are significant differences in the assessment of the performance of teachers by headteachers and students in terms of the knowledge of the subject matter and the different pedagogical approaches.

According to Developing Metrics for Assessing Engineering Instructions (2009), when a complete act of teaching is defined in terms of material knowledge, instructional design skills, instructional delivery skills, instructional assessment skills, and components of course management skills, it becomes clear that the evaluation of teaching cannot be achieved either by a single measuring tool or based on a judgment of one administrator No one individual or group has a comprehensive, complete view of the whole teaching cycle.

According to Sarzynski (2018), however, students should have the right to criticize both the material and the teaching methods. The students may, on the one hand, become more motivated and then engage and listen more carefully during class. On the other hand, in a world overwhelmed with knowledge, they can build critique which is a vital skill today. Criticizing a course is a good beginning to learn how to produce useful feedback. Those students will be self-critical in the future, and they can improve themselves.

Table 5. Spearman Rank: Correlation between the Teachers' Performance and the Learning Outcomes on Students' First Periodic Test

Indicator	Result of Students' First Periodic Test				
	Correlation Coefficient	Interpretation	p-value	Decision	Remarks
Knowledge of the Subject Matter	0.173	Weak Positive Correlation	0.002	Reject Ho	Significant
Pedagogical Approaches	0.124	Weak Positive Correlation	0.029	Reject Ho	Significant

Constructivism Approach	0.147	Weak Positive Correlation	0.010	Reject Ho	Significant
Collaborative Approach	0.131	Weak Positive Correlation	0.022	Reject Ho	Significant
Integrative Approach	0.124	Weak Positive Correlation	0.030	Reject Ho	Significant
Inquiry-Based Approach	0.129	Weak Positive Correlation	0.024	Reject Ho	Significant
Reflective Approach	0.083	Very Weak Positive Correlation	0.146	Failed to Reject Ho	Not Significant

Note: If the p-value is less than or equal to the level of significance which is 0.05 reject the null hypothesis otherwise failed to reject Ho. Correlation coefficient values: ±0.76 – ±0.99 Very Strong; ±0.51 – ±0.75 Strong; ±0.26 – ±0.50 Moderate; ±0.11 – ±0.25 Weak; ±0.01 – ±0.10 Very Weak

As shown in Table 5, the data reveals that the students' first periodic test and the researcher's research instrument in terms of the knowledge of the subject matter has a correlation coefficient of 0.173 interpreted as weak positive correlation and a p-value of 0.002. Since the p-value is lower than $\alpha \leq 0.05$, the hypothesis was rejected. In conclusion, there is a significant relationship between the teachers' performance as assessed by the students using the researcher's research instrument with regards to the knowledge of the subject matter and the learning outcomes assessment result on students' first periodic test.

Generally, the results suggest that there is a significant relationship between the teachers' performance as assessed by the students using the researcher's research instrument in terms of knowledge of the subject matter and of pedagogical approaches specifically the constructivism, collaborative, integrative and inquiry-based approach and the result of the learning outcomes assessment on students' first periodic test with a p-value lower than $\alpha \leq 0.05$ and a weak positive correlation of that ranges from +0.11 to +0.25 or a direct relationship between them. However, the results also imply that there is no significant relationship on teachers' performance as assessed by the students' using the researcher's research instrument as regards with the reflective approach and the results on learning outcomes assessment on students' first periodic test with a p-value of 0.146 which is greater than $\alpha \leq 0.05$ as the level of significance to reject the hypothesis and with a correlation coefficient of 0.083 or a very weak positive correlation.

Heggart (2016) established that knowledge of the subject matter was only a minor consideration in the achievement of the students.

Akiri & Ugborugbo (2019), cited in their analysis the impact of the teachers ' classroom productivity on the academic performance from which effective teachers generated better-performing students. Nevertheless, there was no statistically significant difference in results found in the graduates. This may be due to the influence of variables that were not included in the report, relevant to the student and school climate. It has been concluded that the impact teachers have on students ' academic achievement is not the sole determinant.

According to Effective and Appropriate Pedagogy | Unesco IIEP Learning Portal (2014), education relies on the teachers in the classroom using pedagogic methods. The success of pedagogy also depends on the specific subject matter to be learned, on recognizing the various needs of different learners, and on responding to the situations on-the-ground in the classroom and the environment around. Generally, the best teachers believe in the potential of their students to learn and actively use a range of pedagogical methods to ensure that this learning takes place. According to Effective and Appropriate Pedagogy | Unesco IIEP Learning Portal (2014) also states that effective

pedagogy can lead to academic achievement, social and emotional development, the acquisition of technical skills, and general capacity to contribute to society.

REFERENCES

Abdi, A. (2014). The Effect of Inquiry-Based Learning Method on Students' Academic Achievement in Science Course. Universal Journal of Educational Research, 2(1), 37–41. Retrieved from https://eric.ed.gov/?id=EJ1053967

Abdul Manaf, A. H., Abdullah, M. S., & Osman, A. (2015). The Effect of Subject-Matter Knowledge, Educational Strategy, Lecture Quality, and Classroom Social Climate on Teaching Effectiveness. Mediterranean Journal of Social Sciences. https://doi.org/10.5901/mjss.2015.v6n3s1p437

Akiri, A. A. (2013). Effects of Teachers' Effectiveness on Students' Academic Performance in Public Secondary Schools; Delta State - Nigeria. Journal of Educational and Social Research. https://doi.org/10.5901/jesr.2013.v3n3p105

Aktamis, H., Highe, E., & Ozden, B. (2016). Effects of the Inquiry-Based Learning Method on Students' Achievement, Science Process Skills and Attitudes Towards Science: A Meta-Analysis Science. Journal of Turkish Science Education, 13(4), 248–261. https://doi.org/10.12973/tused.10183a

Ann, C., & Emata, C. Y. (2018). An Integrative Approach Through Reading Comprehension to Enhance Problem Solving Skills of Grade 7 Mathematics Students. International Journal of Innovation in Science and Mathematics Education (Formerly CAL-Laborate International), 26(3). Retrieved from https://openjournals.library.sydney.edu.au/index.php/CAL/article/view/12497/11671

Davut Göker, S. (2016). Use of Reflective Journals in Development of Teachers' Leadership and Teaching Skills. Universal Journal of Educational Research, 4(12A), 63–70. https://doi.org/10.13189/ujer.2016.041309

DepEd reaffirms commitment to PPST-aligned RPMS. (2018, September 26). Retrieved January 16, 2020, from Sunstar website: https://www.sunstar.com.ph/article/1766302

Heggart, K. (2016, May). How Important is Subject Matter Knowledge for a Teacher? Retrieved from Edutopia website: https://www.edutopia.org/discussion/how-important-subject-matter-knowledge-teacher

Iliscupidez, P. (2001). An Assessment of the Tertiary Level Faculty Evaluation Program in Region III: Basis of a Proposed College Teaching Evaluation Tool. (Unpublished Dissertation). Centro Escolar University, Mendiola, Manila.

Implementing Rules and Regulations of the Enhanced Basic Education Act of 2013 | GOVPH. (2013, September 4). Retrieved July 5, 2019, from Official Gazette of the Republic of the Philippines website: https://www.officialgazette.gov.ph/2013/09/04/irr-republic-act-no-10533/

Jadama, L. (2014). Impact of Subject Matter Knowledge of a Teacher in Teaching and Learning Process. In Middle Eastern & African Journal of Educational Research. Retrieved from https://ewritingtutors.files.wordpress.com/2016/05/subject-matter-knowledge2.pdf

July 2015 | Department of Education Region IV -A | CALABARZON. (2015). Retrieved November 9, 2019, from Depedcalabarzon.ph website: https://depedcalabarzon.ph/july-2015/

July 2016 | Department of Education Region IV -A | CALABARZON. (2016). Retrieved November 9, 2019, from Depedcalabarzon.ph website: http://depedcalabarzon.ph/july-2016/

Khanam, Afifa, Zahid, Madiha. (2019). Effect of Reflective Teaching Practices on the Performance of Prospective Teachers. Turkish Online Journal of Educational Technology - TOJET, 18(1), 32–43. Retrieved from https://eric.ed.gov/?id=EJ1201647

Nnene, B., Ene, F., & Chime, C. (2019). Collaborative Approach in Teaching and Learning Of English as A Second Language. JELTRAN: Journal of the English Language Teachers Association of Nigeria, 4(2014), 113–122. Retrieved from https://www.researchgate.net/publication/333045611_collaborative_approach_in_teaching_and_learning_of_english_as_a_second_language

Rahmatullah, M. (2016). Higher Education Studies. 6(1). https://doi.org/10.5539/hes.v6n1p169

Republic Act No. 10533 | GOVPH. (2013, May 15). Retrieved July 5, 2019, from Official Gazette of the Republic of the Philippines website: https://www.officialgazette.gov.ph/2013/05/15/republic-act-no-10533/

Republic of the Philippines Department Of Education Region IV-A CALABARZOI{ Gate 2, Karangalan Village, Cainta Rizal to Regional Memorandum no. 233 s.2016 ntendents From Subject Implementation Of The Pedagogical Approaches Mandated. (1053). Retrieved from http://depedcalabarzon.ph/wp-content/uploads/2016/07/Regional-Memorandum-No.-233-s.2016.pdf

San, M. (2015). Republic of the Philippines Department of Education Region IV.A CALABARZON Gate 2, Karangalan Village, Cainta Rizal Email: i it'irt'ti-i o-li1. Retrieved from http://depedcalabarzon.ph/wp-content/uploads/2015/07/Regional-Memorandum-No.11-s.2015.pdf

Student evaluations of teaching are an inadequate assessment tool for evaluating faculty performance. (2017). Retrieved November 9, 2019, from Cogent Education website: https://www.tandfonline.com/doi/abs/10.1080/2331186X.2017.1304016

What Is a Constructivist Approach to Teaching? (2011). Retrieved August 10, 2019, from The Classroom | Empowering Students in Their College Journey website: https://www.theclassroom.com/constructivist-approach-teaching-8455246.html